Exemption No. 6710

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98055-4056

In the matter of the petition of

Schwartz Engineering Company

for an exemption from 14 CFR § 25.807(d)(7)

Regulatory Docket No. 29042

PARTIAL GRANT OF EXEMPTION

By letter dated September 30, 1997, Mr. James A. Dugelby, Manager of Certifications, Schwartz Engineering Co. 11503 Jones Maltsberger, Suite 200, San Antonio, TX, petitioned for an exemption from 14 CFR § 25.807(d)(7), as amended by Amendment 25-67, of the Federal Aviation Regulations (FAR), to permit a B757-200 interior arrangement that does not provide sixty feet or less between passenger emergency exits in the side of the fuselage.

Sections of the FAR affected:

Section 25.807(d) requires that the edge to edge distance between adjacent passenger emergency exits, on each side of the fuselage, be no greater than sixty feet.

Related sections of the FAR:

Section 25.2(b) requires compliance with § 25.807(d)(7) (in effect on July 24, 1989) for any modification to an airplane that was manufactured after October 16, 1987.

Section 21.183(f) requires compliance with § 25.807(d)(7) (in effect on July 24, 1989) for an airplane that was manufactured after October 16, 1987, in order for the airplane to be eligible for a standard certificate of airworthiness.

The petitioner's supportive information is as follows:

"Amendment 25-67 established the maximum distance of 60 feet between emergency exits in order to ensure an opportunity for safe passenger evacuation during an emergency.

"The preamble to the particular amendment (published in 54 FR 26688, June 23, 1989) states that the regulation was initially issued as an interim action in response to increases in distances between emergency exits in certain aircraft under development and to set a maximum distance for aircraft manufactured after October 16, 1987. As such the rule was issued 'until better knowledge permitting development of a Specific Performance Standard becomes available.'

"As stated, the rule was considered 'necessary in the interest of airline passenger safety.' We cannot disagree with the conclusions reached by the agency at the time, as applied to the interest of passenger safety in airline operations. Given the normal airline seating arrangements, seat pitch, aisle width, and number of occupants between emergency exits, along with increased aircraft size, it was appropriate for the FAA to have issued an interim rule. As stated in the preamble, the decision to establish a maximum distance of 60 feet was not a decision based on specific provable data but a decision based on a balancing of the factors which go into the cabin evacuation scenario. What is indicated, but not explicitly stated, is that this scenario is typically an airline operation/configuration.

"As also stated, 'the FAA does not have to conclude that 65 feet or 75 feet or 85 feet would never under any circumstance be safe.' This would indicate that there are possible configurations of interior arrangements, number of occupants, and/or other factors that the FAA may find are not unsafe with distances greater than 60 feet. The rule, as most laws, has to deal with the broad issues rather than belabor the possible exceptions.

"In the *Regulatory Evaluation Summary* section of the preamble a paragraph addresses the 'executive configurations.' The sentence, 'However, since most executive conversions are destined for overseas customers, any such airplanes which do not meet the final rule could be accommodated under the deviation authority of Part 21,' leaves the issue of U.S.-registered executive aircraft unresolved. This petition clarifies the impact of a strict application of the 60-ft rule on international trade, and specifically for those customers who prefer the safety and quality which are normally associated with FAA-approved products, including interior modifications.

"We do not disagree with the FAA's position that it does, in fact, have the regulatory authority to impose what at the time was considered a retroactive type regulation vis-à-vis Aircraft Certification, nor to the establishment of what some considered an 'arbitrary' regulatory value for controlling a promulgation of longer and longer exit-to-exit distances in large transport aircraft in the interest of safety.

"The obvious purpose of the subject regulation was to stop what appeared to be a continuing expansion of the exit-to-exit distance, in the context of the total number of passengers stated between exits, generated by either specific manufacturers, or individual airline operations.

DISCUSSION

"CFR Part 25 of the Federal Aviation Regulations governs design certification of Transport Category aircraft. The primary intent of these regulations, as written is to be certain that Aircraft Manufacturers provide for the appropriate design features in their respective aircraft to meet the standards necessary to protect the traveling public. Clearly, there is a requirement 'in the public interest' and in the interest of safety to provide regulatory guidelines for certification. However, it is also very clear these regulations are intended to regulate the certification of 'commercial' aircraft, which are 'for hire' to the general public.

"While the greatest majority of these regulations represent a common sense inclusion for any aircraft regardless of it's intended use, a few are obviously intended to regulate situations that are specific to an airline, or for hire operation. When a Transport Category aircraft is operated under CFR Part 91 and 91.501 and/or CFR Part 125, some of the FAR 25 rules have acceptance criteria that are inappropriate, or are not compatible with this type of an operation and the intended use of the aircraft. This Petition is directed only at FAR 25.807(d)(7), the Sixty foot Exit-to-Exit distance limitation.

"Transport Category Aircraft intended for *Private* use, whether originally designed for private use or public, revenue-type operations and then utilized under CFR Part 91 or CFR Part 125, are used for personal (corporate) non-revenue operations, which represent significant operational differences from the typical revenue operation. The differences represented in these private operations can best be described as follows:

"1. Operation is limited to the private use of an individual(s), Corporation, or Government and does not include public - for hire - operations.

"2. Passenger capacity of the aircraft is significantly less than an equivalent aircraft in commercial operations. Typically, the capacity is less than 30% of that found in an airline configuration.

"3. Flight and Cabin Crews are typically highly trained, and far more familiar with the individual aircraft they are operating, since it is normally the primary aircraft on which they always perform their duties.

"4. Security is extremely high in terms of access to the aircraft while on the ground and with respect to individuals boarding the aircraft.

"5· Passengers on these aircraft are typically repeat passengers, and represent corporate employees or individual owners and family members. As a result, the passengers are far more familiar with the layout of the individual aircraft and the associated emergency equipment and exits.

"6. Custom interior layouts, furnishings, fixtures, furniture, cabinets, galleys, etc. are more representative of 'Board Room' type furnishings, than airline style interiors. Seat Pitch and Aisle Widths are typically substantially more spacious than an airline interior.

PETITION

"We respectfully request the FAA to issue an Exemption for the subject aircraft to FAR 25.807(d)(7), Sixty Foot Exit-to-Exit Distance Limitation.

"This Petition is required due to deactivation of the right hand Type I Service Door at [floor station] FS 710.0, and the deactivation of the left hand Type I Emergency Escape Door at FS 1335.22. This results in a distance between emergency exits on the right side of the aircraft of 82.3 feet between the #1 Service Access Door Type I exit and the #3 Type I Emergency Escape Door; and a distance on the left side of the aircraft of 79.5 feet between the #2 Type I Passenger Access Door and the #4 Type I Passenger Access Door exit.

"The purpose for deactivation of the two subject emergency exits is to accommodate owner specified custom interior installations.

BASIS FOR EXEMPTION

"The aircraft that is the subject of this petition is a new 757-200 which was delivered 'green' from Boeing in February of 1997, to the Owner-selected completion facility, Jet Aviation in Basel, Switzerland. It is a privately owned aircraft being completed with a corporate executive type interior.

"The aircraft was delivered with the following Emergency Exit configuration: Three (3) Type I Passenger Access doors on the left side of the aircraft; Three (3) Type I Service Access doors on the right side of the aircraft, providing three (3) Type I 'Exit Pairs,' and an additional Two (2) Type I Emergency Exits, one (1) each on the left and right side, providing a fourth 'Exit Pair.'

"This configuration is approved for a maximum passenger load of 219 passengers according to Boeing Document D924N104, Configuration Specification Model 757-200. This passenger complement, as specified, is in compliance with the maximum passenger seating as specified in FAR 25.807 for this emergency exit configuration.

"The seating configuration as being installed in the subject aircraft provides for occupiable passenger seats for forty-one (41) passengers (see attached floor plan layout), and a crew of six (6). This represents only 18.7% of the capacity allowed for this Emergency Exit configuration under FAR 25.807. There is no intent now, or in the foreseeable future, to change the interior configuration on the aircraft as being installed.

"The FAA has made statements in the public record indicating it is willing to consider both alternative emergency exit configurations [Amendment 25-72, FAR 25.807 (d)(5)], and to the elimination or deactivation of emergency exits [FAR 91.607 (c)(1-4)], provided there is no degradation of safety.

"FAR 25.803 (b) requires an evacuation demonstration of the cabin in the event there are more than 44 passenger seats on the aircraft, or the Administrator may accept an analysis if it provides adequate data equivalent to that found by demonstration, and acceptable to the Administrator. Although not required, we have performed a preliminary emergency evacuation analysis to support our Petition (copy attached). [pp 1-4 of the petition, available in the Docket]

"This Emergency Evacuation Analysis assumes a worst case scenario whereby the exits on the left hand side of the aircraft are blocked, both Flight Attendants initially attempt opening of the [left hand] LH #1 and #4 exits. The analysis shows all passengers on the ground within 31.0 seconds and the last flight attendant on the ground within 46.0 seconds after a cabin sweep to ensure all passengers have exited the aircraft. This is well within the 90.0-second evacuation time specified in FAR 25.803 (b), even with a 14.0-second time interval for door operation, and elimination of the third exit actually installed.

"Also, even though the opposite unit of the deactivated exit pair cannot be considered in computations for the number of passengers allowed (also as noted in 61 FR 57946, November 8, 1996), these exits do in fact exist, and this is a situation where the Petitioner is deleting passenger capacity, not requesting more. The actual passenger capacity involved is far less than the exits would allow, even with the deactivated exit pairs removed from the calculation completely. Taking these exit pairs into consideration, the evacuation time would be significantly less.

"Other factors to take into account:

"1. As shown in the attached floor plan, the center area of the aircraft, which would be impacted if the Exit-to-Exit rule were applied in the strictest sense, is a relatively open area approximately 36 feet in length containing only 16 passengers. There is no aisle flow rate complications in this area; the open floor plan permits rapid egress in either or both directions.

"2. The familiarity of the crew and passengers with the specific aircraft and its associated emergency equipment and exits is a significant factor in the safety of this operation.

"3. It is our opinion that even with the deactivation of the two exits noted above and the corresponding distance between exits resulting therefrom, the remaining emergency exits, distances, aisle flow rate capabilities, and the total number of passengers involved will result in, at a very minimum, an equivalent level of safety, if not an increased level of safety.

"IN THE PUBLIC INTEREST - The approval of this Petition for Exemption would demonstrate the FAA's willingness to deal with the issues involved with this Exemption, and would be in the Public Interest for the following reasons:

"1 . There is no degradation of safety involved with this request and therefore no detrimental impact to the public at large; and

"2. Given the proliferation of Executive Configured Transport Category Aircraft currently taking place and anticipated in the near future, this type of exemption will enable US manufacturers of transport category aircraft to effectively compete in this expanding market; and

"3. Additional sales of US manufactured transport aircraft outside the traditional airline market can only serve to increase profitability of US airframe manufacturers, giving greater job stability to the workers employed by those manufacturers; and

"4. Greater stability of a work force as significant as the US aircraft manufacturers represent can only result in additional fuel to stabilize the economy of the US due to the normal household activity associated with stable workers; and

"5· Stability and improved financial performance of the US airframe manufacturers translates into increased orders and stability in numerous other supporting manufacturing organizations; and

"6. Increased sales of these executive configured transport aircraft will ultimately result in some portion of those aircraft being completed at US owned or operated Aircraft Completion Facilities, providing improved financial performance and work force stability for those organizations as well; and

"7. Improved financial performance of US owned or operated corporations, and increased work force stability translates into continued and improved tax revenues for all governmental organizations involved; and

"8. Improved financial performance allows US corporations to continue to invest in new R & D research which will allow the US to maintain or improve its competitive position in the world economy; and

"9. A large number of these types of sales can be predicted to be to 'offshore' clients, improving the US Balance of Trade Deficit significantly."

"We are hereby requesting an exception to publication for public comment for good cause, under FAR 11.27(j)(3). The following comments are pertinent to this request.

"1. Jet Aviation AG, in Basel, Switzerland, had initially presented the particular interior completion to the FAA International Field Office in Frankfurt, Germany, on July 10, 1996. It was then proposed that the project be accomplished as a Field Approval. No objection from the IFO was given. Further discussions between Jet Aviation and the IFO were held in October 17, 1996, at which time floor plans, description of the proposed modifications, and tentative schedules were discussed.

"2. On July 30, 1997, the Frankfurt IFO informed Jet Aviation by telephone to pursue the approval of the completion by application for a one time [supplemental type certificate] STC. This was later confirmed in their letter of September 2, 1997. Up until that time, there had been no mention of a possible change in certification procedures.

"3. A meeting was scheduled for September 11, 1997, to discuss the concerns that the IFO had in regard to proceeding with the original certification plan. At this meeting, the IFO informed the assembled personnel that there was no alternative from their standpoint, at which time the process to apply for a one time STC was initiated. Participants in the meeting included a representative of the Swiss Federal Office for Civil Aviation (FOCA), representatives from the Brussels FAA ACO and the Fort Worth Special Certifications Office, as well as personnel from Jet Aviation and Schwartz Engineering.

"4. Over ten months of activity had already taken place prior to the time that the IFO announced their unilateral decision, with no comments on the project other than requests for improvements regarding procedures used by the completion center. A task force was selected to put together a plan to accomplish the work in a timely manner. The initial delivery date was, of course, compromised due to the need to present the data from the various participants in an STC-type manner. Even so, we have resolved most of the issues involved in the STC. A delivery date of November 30, 1997, was established.

"5. A significant item was the 60-ft exit spacing requirement under FAR 25.807(c)(1). The aforementioned petition for exemption was filed as expeditiously as possible. Further delays, such as would result from a possible 120 days involved in the publication process, will have a serious and detrimental effect to both Jet Aviation and Schwartz Engineering."

For the reasons discussed in the following analysis/summary, the FAA finds, for good cause, that action on this petition, to the extent it involves a temporary exemption, should not be delayed by publication and comment procedures. As noted by the petitioner, a delay in acting on the petition would create a

major economic burden on the petitioner and customer, and would compound other delays that were not solely the fault of the petitioner.

The FAA's analysis/summary is as follows:

> The FAA notes that while the petitioner has requested relief from § 25.807(d)(7), the governing regulation is really § 25.2(b). This is because Amendment 25-67 is not part of the certification basis for the Boeing 757. Therefore, §25.807, as amended by Amendment 25-67, is not applicable. However, compliance with § 25.2(b) is required for any modification in accordance with the certification procedures of § 21.101(a). In addition, while not part of this request, the FAA is addressing compliance with §21.183(f) at the same time, since relief from the type design requirement, in this case, would have limited value without similar relief from the requirements of 14 CFR part 21.
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> The FAA is concerned that granting an exemption such as this sets a significant precedent, and affects future interpretations of this regulation. In order to properly address this issue, further study is required, and a careful consideration of the history and background of the regulation is necessary. The FAA believes that public notice and comment may be important in examining the issues raised in this petition. Although many of the issues raised by the petitioner are worthy of consideration, the FAA cannot at this time, grant a permanent exemption from the requirement.
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> However, as noted by the petitioner, the FAA did contribute to the late identification of this issue as an obstacle to certification. Both the petitioner and its customer have significant investment in the project that is jeopardized if the airplane is unable to be approved as modified. Petitioner has outlined points that, on their face, indicate that with the substantially reduced passenger load, safety will not be diminished. However, the FAA wishes to examine this issue in more detail. Considering the financial harm that would befall the petitioner and customer if the airplane is unable to be delivered, the FAA has determined that a <u>temporary</u> grant of exemption is appropriate to allow time for public comment, and for the FAA to give the matter proper consideration. Expiration of this exemption will render the airworthiness certificate for the airplane invalid, unless the Administrator finds that a permanent exemption is in the public interest, prior to its expiration. The FAA considers that a one year exemption should allow sufficient time for all of this to occur.

In consideration of the foregoing, I find that a temporary grant of exemption is in the public interest and will not significantly affect the level of safety provided by the regulations. Therefore, pursuant to the authority contained in 49 USC 40113 and 44701, delegated to me by the Administrator (14 CFR 11.53), Schwartz Engineering is hereby granted an exemption from the requirements of §§ 21.183(f) and 25.2(b) of the FAR to the extent necessary to permit type and airworthiness certification of a Boeing 757-200 airplane with adjacent exits further than 60’ apart. This approval is subject to the following provisions:

1. This exemption does not apply to airplanes engaged in common carriage.

2. Passenger capacity cannot exceed 41.

3. Changes to the interior arrangement that result in a redistribution of passengers within the cabin require coordination with the Transport Airplane Directorate.

4. This exemption applies to greater than 60' exit to exit distances created by deactivation of the number 2 right and number 3 left exits.

5. This exemption expires on December 20, 1998.

Issued in Renton, Washington, on December 18, 1997

/s/ Gilbert L. Thompson
Gilbert L. Thompson
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service, ANM-100